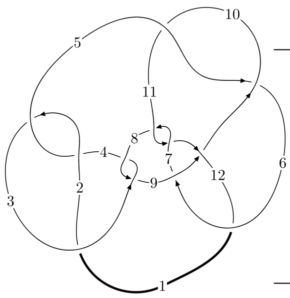
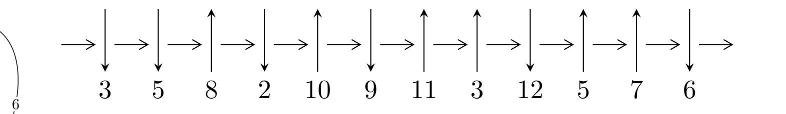
$12n_{0265}$ ($K12n_{0265}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$3,8 \underset{c_8}{\rightarrow} 9,11 \underset{c_7}{\rightarrow} 7 \underset{c_{11}}{\longrightarrow} 12 \underset{c_9}{\rightarrow} 10 \underset{c_6}{\longrightarrow} 6 \underset{c_{12}}{\longrightarrow} 1 \underset{c_5}{\longrightarrow} 5 \underset{c_2}{\longrightarrow} 2 \underset{c_4}{\longrightarrow} 4 \twoheadrightarrow c_1, c_3, c_{10}$$

Ideals for irreducible components[2] of $X_{\mathbf{par}}$

$$\begin{aligned}
I_1^u = \langle & 2.44371 \times 10^{49} u^{24} - 2.09348 \times 10^{50} u^{23} + \cdots + 2.28036 \times 10^{53} b - 8.49453 \times 10^{51}, \\
& - 3.67178 \times 10^{50} u^{24} + 2.53945 \times 10^{51} u^{23} + \cdots + 1.82429 \times 10^{54} a - 1.58059 \times 10^{54}, \\
& u^{25} - 7u^{24} + \cdots - 768u - 1024 \rangle \\
I_2^u = \langle & 1765a^5u^4 - 1502a^4u^4 + \cdots + 17362a - 4182,\ -2a^5u^4 + 22a^4u^4 + \cdots - 398a - 265, \\
& u^5 + u^4 + 5u^3 + u^2 + 2u - 2 \rangle \\
I_3^u = \langle & 94430u^{13} - 176465u^{12} + \cdots + 3057583b - 933114, \\
& 11442968u^{13} - 3792535u^{12} + \cdots + 3057583a + 15949942, \\
& u^{14} + 3u^{12} + 3u^{11} - 5u^{10} - 4u^9 - 11u^8 - 8u^7 + 12u^6 - 8u^5 + 20u^4 + 6u^2 + u + 1 \rangle
\end{aligned}$$

$$\begin{aligned}
I_1^v &= \langle a,\ 8v^3 - 12v^2 + b + 10v - 3,\ 8v^4 - 12v^3 + 12v^2 - 5v + 1 \rangle \\
I_2^v &= \langle a,\ b^6 - b^5 + 2b^4 - 2b^3 + 2b^2 - 2b + 1,\ v + 1 \rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 79 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I_1^u = \langle 2.44 \times 10^{49} u^{24} - 2.09 \times 10^{50} u^{23} + \cdots + 2.28 \times 10^{53} b - 8.49 \times 10^{51},\ -3.67 \times 10^{50} u^{24} + 2.54 \times 10^{51} u^{23} + \cdots + 1.82 \times 10^{54} a - 1.58 \times 10^{54},\ u^{25} - 7u^{24} + \cdots - 768u - 1024 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.000201272u^{24} - 0.00139202u^{23} + \cdots + 0.373312u + 0.866413 \\ -0.000107163u^{24} + 0.000918045u^{23} + \cdots + 0.329212u + 0.0372508 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.000229394u^{24} - 0.00150305u^{23} + \cdots + 0.0571684u + 0.797253 \\ 0.000436197u^{24} - 0.00314869u^{23} + \cdots + 0.195357u - 0.517398 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.000142173u^{24} - 0.000866042u^{23} + \cdots + 0.288083u + 0.794249 \\ 0.0000403596u^{24} - 0.000408965u^{23} + \cdots + 0.135333u - 0.227239 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.000280396u^{24} - 0.00189155u^{23} + \cdots + 0.798559u + 1.20818 \\ -0.000127304u^{24} + 0.00120796u^{23} + \cdots + 0.0853997u + 0.470901 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.000729995u^{24} - 0.00506873u^{23} + \cdots + 0.566298u + 0.385020 \\ 0.000193200u^{24} - 0.00159495u^{23} + \cdots - 0.270058u - 0.454462 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.000602735u^{24} - 0.00397878u^{23} + \cdots + 0.982564u + 0.885973 \\ -0.000178179u^{24} + 0.00103362u^{23} + \cdots - 0.219803u - 0.141734 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.000548097u^{24} - 0.00349779u^{23} + \cdots + 0.400564u + 0.781569 \\ -0.0000546374u^{24} + 0.000480983u^{23} + \cdots - 0.582000u - 0.104403 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.000602735u^{24} - 0.00397878u^{23} + \cdots + 0.982564u + 0.885973 \\ 0.0000546374u^{24} - 0.000480983u^{23} + \cdots + 0.582000u + 0.104403 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ -u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.00281397u^{24} + 0.0194032u^{23} + \cdots - 9.17416u + 2.20110$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{25} + 25u^{24} + \cdots - 39680u + 4096$
c_2, c_4	$u^{25} - 5u^{24} + \cdots - 272u + 64$
c_3, c_8	$u^{25} + 7u^{24} + \cdots - 768u + 1024$
c_5, c_7, c_{10} c_{11}	$u^{25} + 16u^{23} + \cdots - 4u - 1$
c_6, c_{12}	$u^{25} - u^{24} + \cdots - 3u - 1$
c_9	$u^{25} - 17u^{24} + \cdots + 304u - 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{25} - 45y^{24} + \cdots + 260374528y - 16777216$
c_2, c_4	$y^{25} - 25y^{24} + \cdots - 39680y - 4096$
c_3, c_8	$y^{25} + 15y^{24} + \cdots + 3473408y - 1048576$
c_5, c_7, c_{10} c_{11}	$y^{25} + 32y^{24} + \cdots + 6y - 1$
c_6, c_{12}	$y^{25} - 19y^{24} + \cdots - 27y - 1$
c_9	$y^{25} + 3y^{24} + \cdots + 6912y - 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.239284 + 0.960930I$ $a = 0.533027 - 0.309402I$ $b = 0.493247 + 0.016890I$	$-0.98698 - 2.00436I$	$0.63223 + 3.08678I$
$u = -0.239284 - 0.960930I$ $a = 0.533027 + 0.309402I$ $b = 0.493247 - 0.016890I$	$-0.98698 + 2.00436I$	$0.63223 - 3.08678I$
$u = 0.966851$ $a = 0.382684$ $b = -0.452501$	-3.00634	-1.07640
$u = 1.116350 + 0.182242I$ $a = 0.381438 - 0.739225I$ $b = -0.224461 - 0.800052I$	$0.48422 + 3.81324I$	$7.26566 - 4.06355I$
$u = 1.116350 - 0.182242I$ $a = 0.381438 + 0.739225I$ $b = -0.224461 + 0.800052I$	$0.48422 - 3.81324I$	$7.26566 + 4.06355I$
$u = -0.697727 + 0.198752I$ $a = -0.164828 + 0.368624I$ $b = 0.521134 + 1.221040I$	$-3.96011 + 7.15054I$	$0.209463 - 0.912602I$
$u = -0.697727 - 0.198752I$ $a = -0.164828 - 0.368624I$ $b = 0.521134 - 1.221040I$	$-3.96011 - 7.15054I$	$0.209463 + 0.912602I$
$u = 0.407422 + 1.271680I$ $a = 0.154193 + 0.247049I$ $b = 0.470617 + 0.132952I$	$-7.17114 + 4.86761I$	$3.67428 + 1.38704I$
$u = 0.407422 - 1.271680I$ $a = 0.154193 - 0.247049I$ $b = 0.470617 - 0.132952I$	$-7.17114 - 4.86761I$	$3.67428 - 1.38704I$
$u = 0.356543 + 0.532418I$ $a = 1.40268 - 0.66297I$ $b = 0.145873 - 0.427689I$	$-1.84591 - 0.75519I$	$-5.74786 - 0.43805I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.356543 - 0.532418I$ $a = 1.40268 + 0.66297I$ $b = 0.145873 + 0.427689I$	$-1.84591 + 0.75519I$	$-5.74786 + 0.43805I$
$u = -0.481170 + 0.308405I$ $a = 0.517741 + 0.397349I$ $b = -0.458678 + 0.410360I$	$0.898356 - 0.808185I$	$6.63316 + 4.13450I$
$u = -0.481170 - 0.308405I$ $a = 0.517741 - 0.397349I$ $b = -0.458678 - 0.410360I$	$0.898356 + 0.808185I$	$6.63316 - 4.13450I$
$u = -1.24876 + 0.83504I$ $a = 0.202515 - 0.510317I$ $b = -0.516721 - 1.100670I$	$-0.688755 - 0.842359I$	$-3.27794 - 2.99522I$
$u = -1.24876 - 0.83504I$ $a = 0.202515 + 0.510317I$ $b = -0.516721 + 1.100670I$	$-0.688755 + 0.842359I$	$-3.27794 + 2.99522I$
$u = -0.19971 + 2.12744I$ $a = 0.089187 + 1.142770I$ $b = -0.29018 + 1.74806I$	$-12.2506 - 8.8129I$	$-5.58581 + 4.80434I$
$u = -0.19971 - 2.12744I$ $a = 0.089187 - 1.142770I$ $b = -0.29018 - 1.74806I$	$-12.2506 + 8.8129I$	$-5.58581 - 4.80434I$
$u = 1.03266 + 1.89173I$ $a = 0.583269 - 0.980042I$ $b = -0.67321 - 1.74414I$	$19.0826 + 15.6197I$	$-5.76128 - 6.47974I$
$u = 1.03266 - 1.89173I$ $a = 0.583269 + 0.980042I$ $b = -0.67321 + 1.74414I$	$19.0826 - 15.6197I$	$-5.76128 + 6.47974I$
$u = -0.58061 + 2.17440I$ $a = -0.286368 - 1.009020I$ $b = 0.12493 - 1.68098I$	$-11.69760 + 0.19520I$	$-6.36512 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.58061-2.17440I$ $a=-0.286368+1.009020I$ $b=\ \ 0.12493+1.68098I$	$-11.69760-0.19520I$	$-6.36512+0.I$
$u=\ \ 1.23926+1.89887I$ $a=-0.567788+0.851816I$ $b=\ \ 0.55518+1.55240I$	$-19.1706+7.3377I$	$-6.38194-3.47918I$
$u=\ \ 1.23926-1.89887I$ $a=-0.567788-0.851816I$ $b=\ \ 0.55518-1.55240I$	$-19.1706-7.3377I$	$-6.38194+3.47918I$
$u=\ \ 2.31161+0.19224I$ $a=-0.036412+0.377901I$ $b=\ \ 0.07852+1.79165I$	$-14.6508+4.4763I$	$-6.63166-2.50646I$
$u=\ \ 2.31161-0.19224I$ $a=-0.036412-0.377901I$ $b=\ \ 0.07852-1.79165I$	$-14.6508-4.4763I$	$-6.63166+2.50646I$

II. $\boldsymbol{I_2^u = \langle 1765a^5u^4 - 1502a^4u^4 + \cdots + 17362a - 4182,\ -2a^5u^4 + 22a^4u^4 + \cdots - 398a - 265,\ u^5 + u^4 + 5u^3 + u^2 + 2u - 2\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} a \\ -1.22230a^5u^4 + 1.04017a^4u^4 + \cdots - 12.0235a + 2.89612 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.407202a^5u^4 + 1.61911a^4u^4 + \cdots - 12.4986a + 10.4488 \\ 1.02216a^5u^4 + 0.364266a^4u^4 + \cdots + 4.14958a - 2.79778 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.26593a^5u^4 + 0.393352a^4u^4 + \cdots - 13.1371a + 0.155125 \\ -1.72022a^5u^4 - 3.92521a^4u^4 + \cdots + 10.4017a - 6.69252 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0117729a^5u^4 - 0.395429a^4u^4 + \cdots + 4.60249a - 1.10665 \\ -1.61150a^5u^4 + 0.450831a^4u^4 + \cdots - 6.61773a + 1.48061 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.407202a^5u^4 + 1.61911a^4u^4 + \cdots - 12.4986a + 9.18560 \\ 1.02216a^5u^4 + 0.364266a^4u^4 + \cdots + 4.14958a - 3.21884 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{4}u^4 + \frac{1}{2}u^3 + \cdots + \frac{1}{2}u - \frac{1}{2} \\ \frac{1}{4}u^4 + \frac{3}{2}u^3 + \frac{7}{4}u^2 + u - \frac{1}{2} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{4}u^4 + \frac{3}{4}u^2 - \frac{1}{2}u - \frac{1}{2} \\ -\frac{1}{2}u^3 - \frac{1}{2}u^2 - u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{4}u^4 + \frac{1}{2}u^3 + \cdots + \frac{1}{2}u - \frac{1}{2} \\ \frac{1}{2}u^3 + \frac{1}{2}u^2 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ -u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{588}{361}a^4u^4 + \frac{53}{19}u^4a^3 + \cdots + \frac{434}{19}a - \frac{9308}{361}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^5+8u^4+22u^3+25u^2+15u+1)^6$
c_2, c_4	$(u^5-2u^4-2u^3+3u^2+3u-1)^6$
c_3, c_8	$(u^5-u^4+5u^3-u^2+2u+2)^6$
c_5, c_7, c_{10} c_{11}	$u^{30}-2u^{29}+\cdots+4896u+1161$
c_6, c_{12}	$u^{30}-6u^{29}+\cdots-2892u+367$
c_9	$(u^3+u^2-1)^{10}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - 20y^4 + 114y^3 + 19y^2 + 175y - 1)^6$
c_2, c_4	$(y^5 - 8y^4 + 22y^3 - 25y^2 + 15y - 1)^6$
c_3, c_8	$(y^5 + 9y^4 + 27y^3 + 23y^2 + 8y - 4)^6$
c_5, c_7, c_{10} c_{11}	$y^{30} + 30y^{29} + \cdots + 10260108y + 1347921$
c_6, c_{12}	$y^{30} - 10y^{29} + \cdots - 2032180y + 134689$
c_9	$(y^3 - y^2 + 2y - 1)^{10}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.375669 + 0.888717I$ $a = -0.218883 + 0.638145I$ $b = -0.936331 - 0.693043I$	$-3.76205 + 3.93704I$	$-6.85572 - 5.02057I$
$u = -0.375669 + 0.888717I$ $a = -1.341030 + 0.088898I$ $b = 0.131979 + 0.509733I$	$-3.76205 - 1.71921I$	$-6.85572 + 0.93832I$
$u = -0.375669 + 0.888717I$ $a = -1.69246 - 1.78412I$ $b = -0.22064 - 1.80276I$	$-7.89964 + 1.10891I$	$-13.38499 - 2.04112I$
$u = -0.375669 + 0.888717I$ $a = 0.48486 + 2.82858I$ $b = 0.03993 + 1.45055I$	$-7.89964 + 1.10891I$	$-13.38499 - 2.04112I$
$u = -0.375669 + 0.888717I$ $a = -1.51063 - 2.46477I$ $b = 0.607737 - 1.057200I$	$-3.76205 - 1.71921I$	$-6.85572 + 0.93832I$
$u = -0.375669 + 0.888717I$ $a = 2.15895 + 2.52617I$ $b = 0.060199 + 0.974637I$	$-3.76205 + 3.93704I$	$-6.85572 - 5.02057I$
$u = -0.375669 - 0.888717I$ $a = -0.218883 - 0.638145I$ $b = -0.936331 + 0.693043I$	$-3.76205 - 3.93704I$	$-6.85572 + 5.02057I$
$u = -0.375669 - 0.888717I$ $a = -1.341030 - 0.088898I$ $b = 0.131979 - 0.509733I$	$-3.76205 + 1.71921I$	$-6.85572 - 0.93832I$
$u = -0.375669 - 0.888717I$ $a = -1.69246 + 1.78412I$ $b = -0.22064 + 1.80276I$	$-7.89964 - 1.10891I$	$-13.38499 + 2.04112I$
$u = -0.375669 - 0.888717I$ $a = 0.48486 - 2.82858I$ $b = 0.03993 - 1.45055I$	$-7.89964 - 1.10891I$	$-13.38499 + 2.04112I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.375669 - 0.888717I$ $a = -1.51063 + 2.46477I$ $b = 0.607737 + 1.057200I$	$-3.76205 + 1.71921I$	$-6.85572 - 0.93832I$
$u = -0.375669 - 0.888717I$ $a = 2.15895 - 2.52617I$ $b = 0.060199 - 0.974637I$	$-3.76205 - 3.93704I$	$-6.85572 + 5.02057I$
$u = 0.504107$ $a = 0.528054 + 0.820274I$ $b = 0.237566 - 1.254220I$	-4.84461	$-2.07647 + 0.I$
$u = 0.504107$ $a = 0.528054 - 0.820274I$ $b = 0.237566 + 1.254220I$	-4.84461	$-2.07647 + 0.I$
$u = 0.504107$ $a = 0.538593 + 0.918461I$ $b = -0.429107 + 0.992688I$	$-0.70702 - 2.82812I$	$4.45279 + 2.97945I$
$u = 0.504107$ $a = 0.538593 - 0.918461I$ $b = -0.429107 - 0.992688I$	$-0.70702 + 2.82812I$	$4.45279 - 2.97945I$
$u = 0.504107$ $a = -0.13998 + 1.50412I$ $b = 0.608440 + 0.097206I$	$-0.70702 - 2.82812I$	$4.45279 + 2.97945I$
$u = 0.504107$ $a = -0.13998 - 1.50412I$ $b = 0.608440 - 0.097206I$	$-0.70702 + 2.82812I$	$4.45279 - 2.97945I$
$u = -0.37638 + 2.02979I$ $a = 0.221103 + 0.952099I$ $b = -1.08899 + 2.05323I$	$-17.9582 - 4.1249I$	$-12.12555 + 2.15443I$
$u = -0.37638 + 2.02979I$ $a = 0.136635 + 1.070190I$ $b = 0.16428 + 1.80622I$	$-13.82060 - 1.29678I$	$-5.59629 - 0.82502I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.37638+2.02979I$ $a=-0.681231-0.969436I$ $b=\ \ 0.46229-1.40963I$	$-17.9582-4.1249I$	$-12.12555+2.15443I$
$u=-0.37638+2.02979I$ $a=-0.131733-1.324220I$ $b=\ \ 0.14268-1.60991I$	$-13.8206-6.9530I$	$-5.59629+5.13388I$
$u=-0.37638+2.02979I$ $a=-0.350074-0.021260I$ $b=\ \ 1.075530-0.125738I$	$-13.82060-1.29678I$	$-5.59629-0.82502I$
$u=-0.37638+2.02979I$ $a=-0.002169+0.262200I$ $b=-1.85557+0.41527I$	$-13.8206-6.9530I$	$-5.59629+5.13388I$
$u=-0.37638-2.02979I$ $a=\ \ 0.221103-0.952099I$ $b=-1.08899-2.05323I$	$-17.9582+4.1249I$	$-12.12555-2.15443I$
$u=-0.37638-2.02979I$ $a=\ \ 0.136635-1.070190I$ $b=\ \ 0.16428-1.80622I$	$-13.82060+1.29678I$	$-5.59629+0.82502I$
$u=-0.37638-2.02979I$ $a=-0.681231+0.969436I$ $b=\ \ 0.46229+1.40963I$	$-17.9582+4.1249I$	$-12.12555-2.15443I$
$u=-0.37638-2.02979I$ $a=-0.131733+1.324220I$ $b=\ \ 0.14268+1.60991I$	$-13.8206+6.9530I$	$-5.59629-5.13388I$
$u=-0.37638-2.02979I$ $a=-0.350074+0.021260I$ $b=\ \ 1.075530+0.125738I$	$-13.82060+1.29678I$	$-5.59629+0.82502I$
$u=-0.37638-2.02979I$ $a=-0.002169-0.262200I$ $b=-1.85557-0.41527I$	$-13.8206+6.9530I$	$-5.59629-5.13388I$

III.

$\boldsymbol{I^u_3 = \langle 9.44 \times 10^4 u^{13} - 1.76 \times 10^5 u^{12} + \cdots + 3.06 \times 10^6 b - 9.33 \times 10^5,\ 1.14 \times 10^7 u^{13} - 3.79 \times 10^6 u^{12} + \cdots + 3.06 \times 10^6 a + 1.59 \times 10^7,\ u^{14} + 3u^{12} + \cdots + u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -3.74249u^{13} + 1.24037u^{12} + \cdots - 13.2443u - 5.21652 \\ -0.0308839u^{13} + 0.0577139u^{12} + \cdots - 1.36605u + 0.305180 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -2.42006u^{13} - 0.985121u^{12} + \cdots + 2.65790u - 6.80147 \\ -0.316204u^{13} - 0.0156306u^{12} + \cdots - 1.02247u - 0.0647390 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -1.65230u^{13} - 0.528076u^{12} + \cdots - 3.28689u - 9.41576 \\ 0.0490374u^{13} - 0.177945u^{12} + \cdots - 2.06678u - 0.528005 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -3.08993u^{13} + 1.27423u^{12} + \cdots - 12.9284u - 3.82414 \\ -0.0308839u^{13} + 0.0577139u^{12} + \cdots - 1.36605u + 0.305180 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.81654u^{13} - 0.773320u^{12} + \cdots + 5.04060u - 5.88109 \\ -0.349611u^{13} + 0.0608824u^{12} + \cdots - 0.207156u + 0.147062 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.721149u^{13} + 0.347374u^{12} + \cdots - 3.07386u - 0.461186 \\ -0.0528928u^{13} + 0.242971u^{12} + \cdots + 0.414713u + 0.501461 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.671228u^{13} - 0.305180u^{12} + \cdots + 3.86235u + 0.615272 \\ -0.0499215u^{13} + 0.0421941u^{12} + \cdots + 0.788488u + 0.154087 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.721149u^{13} + 0.347374u^{12} + \cdots - 3.07386u - 0.461186 \\ -0.0499215u^{13} + 0.0421941u^{12} + \cdots + 0.788488u + 0.154087 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{9599746}{3057583}u^{13} - \frac{14270512}{3057583}u^{12} + \cdots + \frac{101040801}{3057583}u - \frac{56545536}{3057583}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{14} - 14u^{13} + \cdots - 5u + 1$
c_2	$u^{14} + 6u^{13} + \cdots - 3u + 1$
c_3	$u^{14} + 3u^{12} + \cdots - u + 1$
c_4	$u^{14} - 6u^{13} + \cdots + 3u + 1$
c_5, c_{11}	$u^{14} + 7u^{12} + \cdots - 3u + 1$
c_6, c_{12}	$u^{14} - 3u^{13} + \cdots - 6u + 1$
c_7, c_{10}	$u^{14} + 7u^{12} + \cdots + 3u + 1$
c_8	$u^{14} + 3u^{12} + \cdots + u + 1$
c_9	$u^{14} - 5u^{13} + \cdots + 2u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{14} - 22y^{13} + \cdots + 143y + 1$
c_2, c_4	$y^{14} - 14y^{13} + \cdots - 5y + 1$
c_3, c_8	$y^{14} + 6y^{13} + \cdots + 11y + 1$
c_5, c_7, c_{10} c_{11}	$y^{14} + 14y^{13} + \cdots + 9y + 1$
c_6, c_{12}	$y^{14} - 5y^{13} + \cdots - 10y + 1$
c_9	$y^{14} + 5y^{13} + \cdots + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.139126 + 0.855284I$ $a = 0.02309 - 2.89055I$ $b = 0.10927 - 1.56543I$	$-7.24127 - 0.77135I$	$-2.53833 - 3.61425I$
$u = 0.139126 - 0.855284I$ $a = 0.02309 + 2.89055I$ $b = 0.10927 + 1.56543I$	$-7.24127 + 0.77135I$	$-2.53833 + 3.61425I$
$u = -0.352449 + 1.175430I$ $a = -0.266214 + 0.045704I$ $b = -0.341781 + 0.418746I$	$-7.50206 - 5.05550I$	$-15.3583 + 8.9418I$
$u = -0.352449 - 1.175430I$ $a = -0.266214 - 0.045704I$ $b = -0.341781 - 0.418746I$	$-7.50206 + 5.05550I$	$-15.3583 - 8.9418I$
$u = 1.229090 + 0.054546I$ $a = 0.515481 - 0.846913I$ $b = -0.262265 - 0.901818I$	$0.04153 + 3.93339I$	$-9.88151 - 7.52594I$
$u = 1.229090 - 0.054546I$ $a = 0.515481 + 0.846913I$ $b = -0.262265 + 0.901818I$	$0.04153 - 3.93339I$	$-9.88151 + 7.52594I$
$u = 0.196848 + 0.556043I$ $a = -2.17999 - 0.00411I$ $b = -0.381345 - 0.641179I$	$-2.19156 + 3.21998I$	$-4.00004 - 4.18914I$
$u = 0.196848 - 0.556043I$ $a = -2.17999 + 0.00411I$ $b = -0.381345 + 0.641179I$	$-2.19156 - 3.21998I$	$-4.00004 + 4.18914I$
$u = -1.40215 + 0.37579I$ $a = 0.298006 - 0.417984I$ $b = -0.283501 - 1.095790I$	$-0.69469 - 1.77882I$	$-3.04716 + 4.98028I$
$u = -1.40215 - 0.37579I$ $a = 0.298006 + 0.417984I$ $b = -0.283501 + 1.095790I$	$-0.69469 + 1.77882I$	$-3.04716 - 4.98028I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.229849 + 0.360057I$ $a = -9.97539 - 6.14831I$ $b = 0.420766 - 0.730987I$	$-3.49965 - 2.65520I$	$-8.3154 + 25.3017I$
$u = -0.229849 - 0.360057I$ $a = -9.97539 + 6.14831I$ $b = 0.420766 + 0.730987I$	$-3.49965 + 2.65520I$	$-8.3154 - 25.3017I$
$u = 0.41939 + 2.04733I$ $a = -0.414975 + 0.898851I$ $b = 0.73885 + 1.60027I$	$-16.7458 + 4.0257I$	$-3.85923 - 1.44990I$
$u = 0.41939 - 2.04733I$ $a = -0.414975 - 0.898851I$ $b = 0.73885 - 1.60027I$	$-16.7458 - 4.0257I$	$-3.85923 + 1.44990I$

IV. $\boldsymbol{I_1^v = \langle a,\ 8v^3 - 12v^2 + b + 10v - 3,\ 8v^4 - 12v^3 + 12v^2 - 5v + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ -8v^3 + 12v^2 - 10v + 3 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -8v^3 + 8v^2 - 8v + 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -8v^3 + 12v^2 - 10v + 3 \\ -8v^3 + 8v^2 - 6v \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 8v^3 - 12v^2 + 10v - 3 \\ 16v^3 - 16v^2 + 14v - 2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -8v^3 + 8v^2 - 8v + 2 \\ -8v^3 + 8v^2 - 8v + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ 8v^3 - 12v^2 + 12v - 5 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -8v^3 + 12v^2 - 12v + 5 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} v - 1 \\ 8v^3 - 12v^2 + 12v - 5 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 72v^3 - 101v^2 + 96v - 31$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^4$
c_3, c_8	u^4
c_4	$(u+1)^4$
c_5, c_7	u^4+u^2+u+1
c_6	$u^4-2u^3+3u^2-u+1$
c_9	$u^4+3u^3+4u^2+3u+2$
c_{10}, c_{11}	u^4+u^2-u+1
c_{12}	$u^4+2u^3+3u^2+u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^4$
c_3, c_8	y^4
c_5, c_7, c_{10} c_{11}	$y^4 + 2y^3 + 3y^2 + y + 1$
c_6, c_{12}	$y^4 + 2y^3 + 7y^2 + 5y + 1$
c_9	$y^4 - y^3 + 2y^2 + 7y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 0.447562 + 0.776246I$ $a = 0$ $b = -0.547424 + 0.585652I$	$-0.66484 - 1.39709I$	$0.79646 + 4.25046I$
$v = 0.447562 - 0.776246I$ $a = 0$ $b = -0.547424 - 0.585652I$	$-0.66484 + 1.39709I$	$0.79646 - 4.25046I$
$v = 0.302438 + 0.253422I$ $a = 0$ $b = 0.547424 - 1.120870I$	$-4.26996 - 7.64338I$	$-6.9215 + 12.6814I$
$v = 0.302438 - 0.253422I$ $a = 0$ $b = 0.547424 + 1.120870I$	$-4.26996 + 7.64338I$	$-6.9215 - 12.6814I$

V. $\boldsymbol{I_2^v = \langle a,\ b^6 - b^5 + 2b^4 - 2b^3 + 2b^2 - 2b + 1,\ v + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ b \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ b^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} b \\ b^3 + b \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} b^4 + b^2 + 1 \\ b^5 + 2b^3 - b^2 + 2b - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} b^2 + 1 \\ b^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -b^5 - 2b^3 - b + 1 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} b^5 + 2b^3 + b - 1 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -b^5 - 2b^3 - b \\ 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4b^3 + 4b - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^6$
c_3, c_8	u^6
c_4	$(u+1)^6$
c_5, c_7	$u^6 - u^5 + 2u^4 - 2u^3 + 2u^2 - 2u + 1$
c_6	$u^6 - 3u^5 + 4u^4 - 2u^3 + 1$
c_9	$(u^3 - u^2 + 1)^2$
c_{10}, c_{11}	$u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1$
c_{12}	$u^6 + 3u^5 + 4u^4 + 2u^3 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^6$
c_3, c_8	y^6
c_5, c_7, c_{10} c_{11}	$y^6 + 3y^5 + 4y^4 + 2y^3 + 1$
c_6, c_{12}	$y^6 - y^5 + 4y^4 - 2y^3 + 8y^2 + 1$
c_9	$(y^3 - y^2 + 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = -0.498832 + 1.001300I$	$-1.91067 - 2.82812I$	$-4.49024 + 2.97945I$
$v = -1.00000$ $a = 0$ $b = -0.498832 - 1.001300I$	$-1.91067 + 2.82812I$	$-4.49024 - 2.97945I$
$v = -1.00000$ $a = 0$ $b = 0.284920 + 1.115140I$	-6.04826	$-11.01951 + 0.I$
$v = -1.00000$ $a = 0$ $b = 0.284920 - 1.115140I$	-6.04826	$-11.01951 + 0.I$
$v = -1.00000$ $a = 0$ $b = 0.713912 + 0.305839I$	$-1.91067 - 2.82812I$	$-4.49024 + 2.97945I$
$v = -1.00000$ $a = 0$ $b = 0.713912 - 0.305839I$	$-1.91067 + 2.82812I$	$-4.49024 - 2.97945I$

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^{10}(u^5+8u^4+22u^3+25u^2+15u+1)^6$ $\cdot(u^{14}-14u^{13}+\cdots-5u+1)(u^{25}+25u^{24}+\cdots-39680u+4096)$
c_2	$((u-1)^{10})(u^5-2u^4+\cdots+3u-1)^6(u^{14}+6u^{13}+\cdots-3u+1)$ $\cdot(u^{25}-5u^{24}+\cdots-272u+64)$
c_3	$u^{10}(u^5-u^4+\cdots+2u+2)^6(u^{14}+3u^{12}+\cdots-u+1)$ $\cdot(u^{25}+7u^{24}+\cdots-768u+1024)$
c_4	$((u+1)^{10})(u^5-2u^4+\cdots+3u-1)^6(u^{14}-6u^{13}+\cdots+3u+1)$ $\cdot(u^{25}-5u^{24}+\cdots-272u+64)$
c_5	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{14}+7u^{12}+\cdots-3u+1)(u^{25}+16u^{23}+\cdots-4u-1)$ $\cdot(u^{30}-2u^{29}+\cdots+4896u+1161)$
c_6	$(u^4-2u^3+3u^2-u+1)(u^6-3u^5+4u^4-2u^3+1)$ $\cdot(u^{14}-3u^{13}+\cdots-6u+1)(u^{25}-u^{24}+\cdots-3u-1)$ $\cdot(u^{30}-6u^{29}+\cdots-2892u+367)$
c_7	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{14}+7u^{12}+\cdots+3u+1)(u^{25}+16u^{23}+\cdots-4u-1)$ $\cdot(u^{30}-2u^{29}+\cdots+4896u+1161)$
c_8	$u^{10}(u^5-u^4+\cdots+2u+2)^6(u^{14}+3u^{12}+\cdots+u+1)$ $\cdot(u^{25}+7u^{24}+\cdots-768u+1024)$
c_9	$(u^3-u^2+1)^2(u^3+u^2-1)^{10}(u^4+3u^3+4u^2+3u+2)$ $\cdot(u^{14}-5u^{13}+\cdots+2u^2+1)(u^{25}-17u^{24}+\cdots+304u-32)$
c_{10}	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{14}+7u^{12}+\cdots+3u+1)(u^{25}+16u^{23}+\cdots-4u-1)$ $\cdot(u^{30}-2u^{29}+\cdots+4896u+1161)$
c_{11}	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{14}+7u^{12}+\cdots-3u+1)(u^{25}+16u^{23}+\cdots-4u-1)$ $\cdot(u^{30}-2u^{29}+\cdots+4896u+1161)$
c_{12}	$(u^4+2u^3+3u^2+u+1)(u^6+3u^5+4u^4+2u^3+1)$ $\cdot(u^{14}-3u^{13}+\cdots-6u+1)(u^{25}-u^{24}+\cdots-3u-1)$ $\cdot(u^{30}-6u^{29}+\cdots-2892u+367)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^{10}(y^5-20y^4+114y^3+19y^2+175y-1)^6$ $\cdot(y^{14}-22y^{13}+\cdots+143y+1)$ $\cdot(y^{25}-45y^{24}+\cdots+260374528y-16777216)$
c_2, c_4	$(y-1)^{10}(y^5-8y^4+22y^3-25y^2+15y-1)^6$ $\cdot(y^{14}-14y^{13}+\cdots-5y+1)(y^{25}-25y^{24}+\cdots-39680y-4096)$
c_3, c_8	$y^{10}(y^5+9y^4+\cdots+8y-4)^6(y^{14}+6y^{13}+\cdots+11y+1)$ $\cdot(y^{25}+15y^{24}+\cdots+3473408y-1048576)$
c_5, c_7, c_{10} c_{11}	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{14}+14y^{13}+\cdots+9y+1)(y^{25}+32y^{24}+\cdots+6y-1)$ $\cdot(y^{30}+30y^{29}+\cdots+10260108y+1347921)$
c_6, c_{12}	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{14}-5y^{13}+\cdots-10y+1)(y^{25}-19y^{24}+\cdots-27y-1)$ $\cdot(y^{30}-10y^{29}+\cdots-2032180y+134689)$
c_9	$((y^3-y^2+2y-1)^{12})(y^4-y^3+2y^2+7y+4)(y^{14}+5y^{13}+\cdots+4y+1)$ $\cdot(y^{25}+3y^{24}+\cdots+6912y-1024)$